OPTIONAL FORM NO. 10
5010-104

UNITED STATES GOVERNMENT

Memorandum

DATE: 16 AUG 1965

TO : Chief, Support Staff, NPIC

ATTN : Chief, Logistics Branch, SS/NPIC

FROM : Acting Chief, Contract Branch, PD/OL

25X1

SUBJECT: Contract No. [redacted]
Contract No.

25X1

REF : Letter from [redacted] dtd. 23 July 1965,
25X1 subj: [redacted] Request for Contract Amendment on
Projects 552 and 552A.

1. There is attached herewith a copy of the reference letter in which the Contractor requests that Contract No. [redacted] be amended to increase the price by [redacted] and that Contract No. [redacted] be amended to increase the price by [redacted] The requested increases are based upon claimed changes in scope which are common to both contracts.

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2. An examination of both contract files has disclosed that the Contractor has not previously requested authorization for a change in scope on either contract and none has been authorized by the Contracting Officer. The matter is therefore referred to your office for:

a. Your technical determination of whether the claimed work does constitute a change in scope.

b. Your technical recommendations as to the action to be taken on this request.

3. It is noted that the Contractor has again extended the delivery dates for the equipment which is now one year overdue but it is our understanding that this new delivery schedule has received the concurrence of your technical office.

4. This office has acknowledged receipt of the Contractor's letter and has advised him that it is being considered, but this is not to be construed as authorization to perform any work outside the existing written contract

OL 5 5324

25X1

SUBJECT: Contract
Contract [redacted]

5. Your response within ten days from the date of this memorandum is requested. Should you foresee a delay beyond that time please notify

25X1 OL/PD/CB - [redacted] 25X1

Attachment:
Reference letter

Distribution:
Original & 1 - Addressee
25X1 1 - [redacted]
1 - OL/PD/CB - (Official)
1 - Each Subject Contract ([redacted] 25X1
25X1 OL/NPIC: [redacted] (12 Aug. 1965)

ROUTING AND RECORD SHEET

SUBJECT: (Optional)

25X1 Contract [redacted] Contract [redacted] 25X1

FROM:

Acting Chief, Contract Branch/
PD/OL

EXTENSION [redacted] NO.

DATE

16 AUG 1965 25X1

TO: (Officer designation, room number, and building)	DATE RECEIVED	DATE FORWARDED	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
1. Chief, Support Staff/ NPIC				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				OL 5 5324

FORM 3-62 610 USE PREVIOUS EDITIONS ☐ SECRET ☒ CONFIDENTIAL ☐ INTERNAL USE ONLY ☐ UNCLASSIFIED

CONFIDENTIAL

REGISTERED

25X1

23 July 1965

25X1

25X1

Subj: Request for Contract Amendment on Projects 552 and 552A

Gentlemen,

Attached are two copies of Document No. 552-CD-128, Request for Contract Amendment on Projects 552 and 552A. 25X1

If you should require any additional information regarding our enclosed letter, please contact the undersigned.

Very truly yours,

25X1

Vice President - Operations

LHB/de
Att (2)

CONFIDENTIAL

ADMINISTRATION ROUTING SLIP

FROM: C | DATE: 19 Aug

	TO	COMMENTS
Asst.		
Ch/Mgt.		
DCh/Mgt.		Please have
Recds. Mgt. Off.		[redacted] see
Ch/MIB		me. C
Ch/B&F		
Ch/Supp.		
Ch/Pers.		Bill — Please discuss
Ch/Log.	✓	w/John P.
Ch/Sec.		+ need for reply
Ch/Trng.		by 24 Aug. C

SS/LB ROUTING 8/19
Ch
D/Ch
BSS
SS
CA

25X1

IP FM-236 (6-65)

23 July 1965

Attention: Contracting Officer

25X1 Subject: [redacted] Request for Contract Amendment on Projects 552 and 552A

Gentlemen,

At the end of June 1963 you entered into a fixed-price-redeterminable
25X1 contract with [redacted] for a stereo viewer known as Model 552. Proposals had been solicited upon the basis of certain "Design Objectives" defined by the
25X1 customer, and [redacted] had proposed to supply an instrument incorporating certain modifications to its existing Model 387 Stereo Viewer, which had previously been developed for, and supplied to, the Navy Bureau of Weapons. This proposal, as subsequently amended in certain particulars as a result of technical discussions between the parties, was incorporated in, and made the basis of, the contract.

In the course of contract performance, a number of changes have been made in the 552 machine which depart from the design specifications set forth in the proposal and the contract, with the result that the 552 has become virtually a redesigned machine rather than the proposed modification of existing equipment called for by the contract. The redesign effort occasioned by these changes has required extensive development and advancement of the state of the art and has
25X1 caused [redacted] to incur substantial additional costs for which an adjustment in price is hereby requested in accordance with the "changes" provisions of the 552 contract and the follow-on contract for the 552-A machine, which was similarly affected by the above-mentioned changes. 25X1

Less than a month after the 552 contract was signed, [redacted] submitted its proposal for certain additional machines which were to contain many of the capabilities, and utilize the basic design, of the 552, but with certain capabilities deleted. This version of the machine was designated the
25X1 552-A by [redacted] In December 1963 the contract for three 552-A machines

was signed. The contract quantity was thereafter increased to four 552A machines by Supplemental Agreement No. 1, in April 1964.

Analysis of the technical proposal and cost quotations agreed to on the 552A procurement shows that the only engineering time estimated was that necessary for normal monitoring of fabrication, assembly and test of the machines. The only design engineer and designer time estimated was that necessary to revise the drawings to delete items which were part of the 552 configuration but not part of the 552A configuration. This was obviously a contract for the production of similar machines from a stable, existing design.

It is evident from the foregoing that both [redacted] engineers 25X1 and your technical representatives were satisfied with the progress of the job and did not anticipate any reason to delay identification of the requirements of the 552A machine, or its procurement and manufacture, until the 552 was completed. However, in subsequent months circumstances which had justified the concurrent programming of the two contracts were altered by the design changes in the 552 machine. Since the two models incorporated the same basic design, all changes made in the 552 machine were also required to be made in the 552A, so that the effects of all the changes were experienced under both contracts.

Listed below are the items which have required additional research and developmental effort, over and above that required by the contract, and upon which this request for price adjustment is based.

I - Vacuum Film Holddown

As called for in the contract, the vacuum holddown system of the 552 employed a microgroove base plate with multiple grooves running in two directions beneath the film, which was not a novel technique. Microgroove plates conforming to the contract specifications were procured. When they were incorporated in the machine they held the film flat, but the visual results were unacceptable to the customer because the grooves were found to be visible in the viewing system as areas of greater film density, or lower light level, in the imagery. The customer judged that this visual characteristic, although an inherent characteristic of the machine design called for by the contract, might obscure imagery or confuse the photo-interpreter in the performance of his interpretation task.

25X1 [redacted] spent approximately eight months of basic development effort to modify the grooved-plate design so that the grooves would not be visible to the photo-interpreter. Since the visibility of the grooves is caused by the diffraction of light at the edges, or transition point, of the grooves, a great deal of experimentation was conducted in cutting and polishing the grooves to smooth the transition and eliminate the diffraction effect.

In attempting to eliminate the visibility of the grooves, [redacted] 25X1

However, experimentation demonstrated that as the transition point becomes more general (at a larger radius of curvature), the film tends to impinge into the groove when vacuum is applied. In high magnification, the impinging of the film produces a distortion of the image and an out-of-focus condition on the affected part of the film. As a result of this experimentation it was finally established that it was impossible to produce a vacuum holddown system with the multigroove design called for by the contract that would perform as desired by the customer. Accordingly, [redacted] then turned to a basic redesign of the plates, including experimentation with flat plates, eventually producing glass plates which had three large transverse grooves in the format area. 25X1

The efforts described above were clearly beyond anything called for by the contract and were undertaken to effect a change in the equipment in order to improve a condition which the customer found to be undesirable. The performance of this change was, therefore, added task.

II - Objective-Head Drives

The sophisticated objective-head drive system, actuated by a joystick control, allows scanning in stereo regardless of difference in magnification and orientation of the formats being scanned. As described in the contract, the drive system employs stepping motors, controlled by variable frequency oscillators, to drive the lead screws through two-speed gear boxes. In manufacturing the system, 25X1 [redacted] used the best available stepping motors, which could be stepped at speeds upward to 360 steps per second. As described in the contract, the minimum traverse speed in the fine speed range through the gear train, designated "N1", was to be .0001" per second. The contract also specified the step distance

to be approximately one micron, or .00004" per step. Since the minimum traverse distance per second as specified was 2½ times the specified step distance, it was evident from the outset that the contract provided for stepping speeds as low as 2½ steps per second, which is within the known frequency response range of the human eye.

The drive systems were manufactured in accordance with these contract requirements. However, after the first 552A machine became available for test operation by your technical representative he then determined that the specified speed range including stepping rates within the frequency response range of the human eye would be objectionable from an operational standpoint and required a redesign of the drive system.

25X1 [redacted] performed this change by redesigning the drive system to incorporate a three-speed gear box in place of the two-speed gear box called for by the contract. This change meant reworking all five units, since the original, two-speed gear box had already been built into each of the units.

Since the original drive system was manufactured, and performed, in accordance with the contract requirements, the redesign requirement was clearly added task amounting to a change in the contract requirements.

III - Extension of the Optical Range to Include Low Magnification and Large Field of View

On May 22 and 23, 1963, shortly before the contract was signed,

25X1 [redacted] met with your technical representatives to discuss certain

25X1 additional items [redacted] had proposed an addenda to its original proposal. During these discussions the customer also requested a quotation on the cost of adding a fourth lens to the standard three-lens turret proposed for use by

25X1 [redacted] [redacted] had not previously made a viewer employing a four-lens turret and the wide optical magnification range thereby attainable, but the physical arrangement of its existing three-lens turret design, with 90° placement of the lenses, allowed space for the addition of a fourth-lens with no basic change in the turret design.

In specific response to the customer's request, one day later, on May 24, 1963, [redacted] submitted a quotation as follows: 25X1

"Item II, reflects the cost of adding one lens in each turret." The amount quoted on a firm, fixed-price basis was [redacted] which included 26 man-hours of design time, 29 man-hours of shop time and [redacted] of purchased parts. 25X1 25X1

It is obvious from these facts and from the very brief time involved that the proposal requested, furnished and accepted was simply one of adding a low-power objective lens to the existing turret within the established space confines of the turret.

While the customer sought to obtain a greater magnification range by having the fourth lens added, as work progressed it became apparent, because of practical difficulties encountered, that the desired larger field of view would not be effectively available without substantial additional design changes in the machine. The reasons for this are as follows:

The high-intensity light source projects light through its condensing system, through the base plate and film, into the objective lens. The base plate has a diffusing surface causing light dispersion in order to provide uniform general illumination of the entire format. The low-power objective lens has a large field of view and a commensurate long distance between it and the film surface. The combination of light dispersion, over a large viewing area, and a long distance to the objective lens results in an excessive fall-off of light distribution from the center to the edges of the objective lens.

The theoretically preferable type of solution of a problem like this would probably be to add large condensing optics between the light source and the film plane that would provide illumination over the full viewing area at low magnification while converging the light beam down to the objective lens aperture so as to minimize the light-loss effect through diffusion. However, the large condensing optics that would be required could not be accommodated without modification of other performance capabilities attainable with the existing design and desired by the customer, i.e., the minimum spacing of 1 3/16 inches specified in the contract between the optical axes of the two objective heads. Consequently, a less-preferred type of machine modification had to be employed, involving the addition of a field lens directly above the imagery to collect the diffused light and direct it from the film to the objective lens.

25X1 In addition, [redacted] spent considerable effort in resolving all the design and fabrication problems associated with attempting to provide adequate and proper lighting over a 60:1 magnification range as opposed to the previously specified 25:1 range. These efforts have led to design compromises which have adversely affected the light available at the highest specified magnification and resulted in problems at both the high and low ends of the magnification range. Development and design time has been expended to eliminate these problems and incorporate the changes into the five machines covered by the two contracts.

The modification of [redacted] proposal to add a fourth lens 25X1 to the turret, as requested by and furnished to the customer, did not encompass, and was not intended by either party to encompass, redesign of the machine. It was found to be impossible, however, to produce an acceptable image throughout the greater magnification range resulting from the addition of the fourth lens without extensive redesign, as described above, which was clearly added task.

Costs of Added Tasks

The costs incurred by [redacted] as a result of being required 25X1 to perform added tasks described above have been as follows:

25X1 [redacted]

In accordance with discussions between [redacted] personnel 25X1 and the customer's technical representative the revised delivery schedule, which should be included as part of the contract, is as follows:

552A-101	Week of August 9th, 1965
552A-102	Week of October 3rd, 1965
552-101	Week of November 28th, 1965
552A-103	Week of January 2, 1966
552A-104	Week of February 6, 1966

Therefore, it is requested that the contract revision for the additional funds also formalize this delivery schedule.